IMPERIAL

DEPARTMENT OF AGRICULTURE

FOR THE WEST INDIES.

IMPERIAL BUREAU
3 MAY 1930
OF MYCOLOGY

REPORT

ON THE

AGRICULTURAL DEPARTMENT

ST. KITTS-NEVIS

1928-29.

ISSUED BY THE IMPERIAL COMMISSIONER OF AGRICULTURE

FOR THE WEST INDIES.

1929.

[Price Sixpence.]

IMPERIAL

DEPARTMENT OF AGRICULTURE

FOR THE WEST INDIES.

REPORT

ON THE

AGRICULTURAL DEPARTMENT

ST. KITTS-NEVIS

1928-29.

ISSUED BY THE IMPERIAL COMMISSIONER OF AGRICULTURE

FOR THE WEST INDIES.

1929.

[Price Sixpence.]

LETTER OF TRANSMITTAL.

TRINIDAD,
19th August, 1929.

Sir,

I have the honour to transmit herewith the Report on the working of the Agricultural Department, St Kitts Nevis, for the year ended March 31st, 1929.

2. The Report in general follows the lines of previous reports.

3. It is notëd that evidences are still to be seen in the field of the presence of Gumming disease of sugar cane, and the hope is expressed that the susceptible varieties will be entirely eliminated during 1930. The continued presence of Gumming disease prevents the establishment in the island of any susceptible varieties, and in this way might seriously interfere with the success of the sugar cane industry.

4. The methods of extermination employed against Mosaic disease, appear to have been quite successful. No case of this disease has been observed during the year.

5. The sugar cane crop reaped during 1928 was a record onr for the island. In the crop grown during the period under review, the conditions have been less favourable. The severe drought during the first eight months of 1928 retarded the development of the canes, which were damaged to some extent by the severe storm which swept over the islands in September. The canes recoverd under the influence of better weather in the latter part of the season, and at the end of the period under review, the indications were that a fair crop would be reaped.

6. The cotton crop appears to have been an average one, which suffered practically not at all from the Cotton Leaf worm, the Pink Boll worm, or the hurricane.

7. An interesting experiment has been recorded in the use of megass on the light soils of St. Kitts. The results indicate that while raw megass improves the physical quality, the soil is unable to make any accumulation of nitrogen.

8. In Nevis, the further trials of fruits and vegetables for the West Indian and Northern markets, are recorded. Although on a small scale at present, these trials are of interest as indicating possible lines of development.

I have the honour to be,

Sir,

Your most obedient servant,

(Signed) H. A. BALLOU.

Commissioner of Agriculture.
Imperial College of Tropical Agriculture.

CONTENTS.

	Page.
Report of Agricultural Department, St. Kitts-Nevis 31st March, 1929	1
Work in Nurseries and Distribution of Plants ..	1
Plant and Seed Importations	1
Plot Experiments	1
Cotton Selection	3
Government Cotton Seed Farm	4
Work connected with Insect and Fungus Pests and their Control	4
Plant Legislation	5
Sugar Cane Trials	6
Progress in Chief Industries	6
Exports of Cotton	8
Exports of Sugar	9
Details of Administration	11
Official Visits—Work in the Chemical Laboratory ..	11
Investigational Work	12
Conclusions	13
Meteorology	14
Cyclone of September, 1928	18
Report of Agricultural Instructor, Nevis ..	20
Work in the Nursery and Distribution of Plants ..	20
Work in connexion with Insect and Fungus Pests and their control	22
Disinfection and Fumigation of Plants and Seeds ..	23
Experiments with Sugar Cane Varieties—Progress in Chief Industries	23
Progress in Minor Industries	24
Correspondence and Distribution of information on Agricultural Matters	25
Official Visits	25
Publications—Repairs to Buildings—Staff ..	26
Meteorological	26

STAFF OF THE AGRICULTURAL DEPARTMENT ST. KITTS—NEVIS.

Agricultural Superintendent	R. E KELSICK
Junior Clerk and Cotton Inspector, St Kitts	D. C. TODD (from 1st September, 1928)
Assistant Clerk, St. Kitts	S. D KNIGHT (to 31st August, 1928)
Agricultural Instructor, Nevis ...	W. I. HOWELL
Cotton Inspector, Nevis	J. H. STEVENS.

Report of the Agricultural Department St. Kitts—Nevis.

FOR THE YEAR ENDED 31ST. MARCH, 1929.

WORK IN NURSERIES AND DISTRIBUTION OF PLANTS.

The distribution of plants during the year is as follows :

Flowering trees	175	
Ornamental foliage trees ...	455	
Ornamental plants	272	
Cotton seed	22,700	lb.
Onion seed	20	lb.
Ground-nuts	5	lb.
Vegetable seeds	3	pkts
Sugar cane	1700	cuttings
Pineapple suckers	125	
Seeds of nitrogenous cover crops	43	lb

PLANT AND SEED IMPORTATION.

TUNG OIL (*Aleurites Fordii*).

Four plots of this tree have been established in different districts of the island. The plants were put out in October—November 1928, but up to the present they have made very little growth.

PLOT EXPERIMENTS.

GROUND NUT (*Arachis Hypogea*).

A variety trial was carried out with the following five varieties of this crop : Carolina Running, Jumbo, African, Virginia Runner and Improved Spanish.

The lay-out of the experiment took the form of a Latin square with twenty-five plots, each plot being 128 square feet in area.

The actual arrangement of the plots was as follows:

I	B	C	A	D	E
II	E	A	B	C	D
III	C	E	D	A	B
IV	A	D	E	B	C
V	D	B	C	E	A

The plots were planted on the 17th May, the seeds being sown 1 foot apart. Carolina Running and African germinated satisfactorily, but the germination of the other varieties was very uneven. During the first two months the plants suffered from drought. The plots were severely damaged by the hurricane of September 13th and were harvested on October 25th. The following yields in ounces were recorded:

YIELDS OF PLOTS IN OUNCES.

Row.	Carolina Running.	Jumbo.	African.	Virginia Runner.	Improved Spanish.
I	160	200	1 2	184	40
II	176	204	128	165	30
III	143	136	88	126	32
IV	156	164	120	92	24
V	128	108	64	68	44
Total	763	812	552	635	170

No conclusions can be drawn from these results regarding

the yielding capacities of the different varieties as the plots were affected unequally by poor germination and by the hurricane.

YAMS (*Dioscorea Sativa*).

The following varieties of yams were cultivated experimentally: Statia, Crop, Sealed Top, Bottle neck and Danish.

SWEET POTATOES (*Ipomea Batatas*).

The following varieties were grown: Spooners, Brass Cannon Caroline Lee, Hug-me-tight, Montserrat Emma, Sorry for the Poor, Harris, Todd and Yellow Jersey. The Yellow Jersey variety is the type of sweet potato required by the Canadian market and was recently introduced by the Department. price of 3 cents a pound nett was obtained for a small shipment made from Nevis to St. John.

CASSAVA (*Manihot Utilissima*).

The following varieties were grown: French No. 3, White Greenaway, Black Stick, Jack Roe and Sweet No. 1.

COTTON SELECTION.

The work on selections was continued on the same lines as in previous years. The results of the examination of seed cotton from five of the progeny rows are shown below.

Row.	Mean maximum length of lint in m.m	Range	Mean wt. of lint per seed in mgms.	Range.	Mean seed weight in mgms.	Range.
1	52	49-55	43	38-50	121	108-133
3	52	49-57	44	38-50	118	98-128
9	51	49-56	49	44-53	125	108-133
10	51	47-54	43	38-47	112	103-128
12	52	50-56	43	35-50	119	108-133

The yields were poor as a result of the excessive drought during the season. The cotton was planted on the 5th March, 1928, and the rainfall recorded for the three months March, April and May was 6·41 inches, 3·85 inches of which fell in March.

GOVERNMENT COTTON SEED FARM.

The cotton on the farm (65 acres) was planted early in March, 1928. Moderate rains in March gave the crop a fair start but a very poor return was obtained as a result of the severe dought in April and May. The crop had all been reaped before the hurricane on the 13th September.

The total amount of seed cotton picked was 21,921 lb. which yielded 6363 lb. clean cotton and 318 lb. stained cotton, a total of 6681 lb. lint. 17,361 lb. of selected and fumigated cotton seed was sold to growers in the Presidency and 3890 lb. of unselected seed was supplied to peasant growers in Nevis free of charge after the hurricane Seed was obtained from Spooners' Cotton Ginnery to supplement the amount produced on the Farm

---

WORK CONNECTED WITH INSECT AND FUNGUS PESTS AND THEIR CONTROL.

SUGAR CANE.

Gumming Disease.

The leaf streaks of sugar cane gummosis can be seen wherever the very susceptible varieties White Transparent or Jamacia and Ba. 11569 are grown. It seems that there are one or two planters who are holding on as long as possible to the old favourite Jamaica but we hope that all the very susceptible varieties will have been abandoned before the 30th September, 1930. As the presence of this disease on the island will prevent the introduction of improved varieties which are susceptible to it planters should make every endeavour to eradicate the disease

Mosaic Disease.

No case of mosaic disease was observed during the year.

Moth Borer.

The moth borer *(Diatraea saccharalis, Fabr.)* was responsible for a fair amount of damage to young and old cane. Its attacks began to attract attention from about December. It may be that the natural parasites of this insect were considerably reduced by the hurricane of September which would account for the sudden increase in of this pest. At present the moth borer is the most serious pest of the sugar cane and it is hoped that some efficient means for its control will soon be discovered.

COTTON.

This crop was not damaged seriously by any pest during the season. There were only slight attacks by the cotton leaf worm *(Alabama argillacea)* and the first pickings were remarkably free from pink boll worm.

DISINFECTION OF PLANTS AND SEEDS.

As required by law all seeds and plants imported into the island were inspected at the Experiment Station, and, where necessary, fumigated.

PLANT LEGISLATION.

The following is the legislation dealing with plant protection in force in the Presidency:

Ordinance No 3 of 1907. Orders all plants and seeds imported to be sent to the Botanic Station to be examined by the Officer-in-charge and disinfected where necessary.

Ordinance No 2 of 1923 An ordinance for the prevention and eradication of disease and pests affecting vegetation.

Ordinance No 7 of 1918. To make provision for the eradication of the pest known as the Cotton Stainer.

Ordinance No. 18 of 1918. To regulate the planting of cotton and to provide for the destruction of cotton plants.

Ordinance No 6 of 1923. To further amend ordinance No. 8 of 1918, defining an infectious plant and providing for inspection of land before planting a new crop.

Proclamation of January 21, 1924 declares the "Okra" plant an infectious plant within the meaning of the Ordinance

Proclamation of November 16, 1920. Prohibits the importation into the Presidency of sugar canes or parts of sugar canes from all countries save under license given by the Governor

Proclamation of July 29, 1922. Prohibits the importation of all lime plants and parts of lime plants including fruits from British Guiana, Trinidad and Dominica.

Proclamation of November 13, 1923. Prohibits the importation of growing or sprouting coconuts from St. Vincent owing to presence of Red Ring disease.

Proclamation of April 2, 1925. Prohibits the importation of seed cotton or cotton seed from all countries and places outside the Presidency of St. Kitts-Nevis except under the written permission of the Governor on such terms and conditions as he may prescribe

Proclamation of April 2, 1925. Prohibits the importation of banana suckers, save and except banana suckers imported from other Presidencies of the Leeward Islands, St. Vincent and Barbados.

Proclamation of May 9, 1923 Declares mosaic disease of sugar cane to be a disease within the meaning of the plant protection ordinance.

Statutory Rules and Orders, No. 20, 1927. Declares Gumming disease of sugar cane to be a disease within the meaning of the plant protection ordinance.

Statutory Rules and Orders, No. 22, 1927. Requires all cotton seed imported from Nevis to St Kitts for planting to be inspected by the Agricultural Superintendent.

Statutory Rules and Orders, No 29, 1927. Appointing from 1st January to 29th February both days inclusive as the close season for cotton in the island of St. Kitts.

Statutory Rules and Orders, No 5 1928. Appointing from 1st July to 30th September both days inclusive as the close season for cotton in the island of Nevis.

SUGAR CANE VARIETY TRIALS.

A variety trial was laid down at the Experiment Station in November. 1928. The following varieties are being tried : B. H. 10. 12., S. C. 12/4, B. 381, B. 8069, B. 417, Ba. 7924, B. 472, B. 117 S. K. 202, S. K. 203, S. K. 223 The plots are replicated four times with the standard cane B. H. 10. 12.

The following seedling canes were introduced during the year : Barbados seedlings 374, 606, 726 ; Guadeloupe seedling 119 ; Java seedling P. O. J. 2878 P. O. J. 2725, which was introduced last year, looks promising. In Barbados it has been found that the variety B. 726 is equally as good as the standard variety B. H. 10 12

PROGRESS IN CHIEF INDUSTRIES.

THE SUGAR CANE INDUSTRY.

The 1926-28 sugar cane crop was a record one for St. Kitts Weather conditions were exceptionally favourable for growth of the cane until the early part of 1928. For October November and December 1926 the average rainfall of the island was 19.51 inches and in consequence the percentage of germination was high and there was an excellent stand of young cane early in 1927. The average rainfall for 1927 was 64.36 inches nearly 10 inches above the average for the previous fourteen years. At no time during the year did the cane crop suffer for lack of moisture. In 1928 there was a severe drought in April and May which reduced cane yields to some extent. Had there been moderate weather in the early part of 1928 the crop of the island would have reached 20,000 tons of sugar.

For the 1926-28 crop 6770 acres were reaped and the island average was 24.1 tons of cane and about 2.9 tons of sugar per acre. These figures compare very favourably with other sugar producing countries of the world where cane is grown under rainfall alone. The highest average yield obtained on an estate was 39.7 tons of cane per acre.

THE COTTON INDUSTRY.

The total estimated acreage was as follows :

St Kitts (planted March, 1928)	...	1000 acres.
Nevis (planted October, 1928)	...	1500 „
Anguilla (planted September, 1928)		64 „

In St Kitts the cotton was all planted in March or in the early part of April. The germination of the seed was good, but the severe drought in April and May seriously affected the crop

especially in the Basseterre district. Very little damage was done to the crop by either the cotton leaf worm or the pink boll worm

The total output of the island was 149,077 lb lint cotton The whole crop was shipped to the United Kingdom and sold at good prices,

Nevis.

A report of the industry in Nevis was given in the report of the Agricultural Instructor of that island.

Anguilla.

The acreage planted in Anguilla was about 64 acres, and the amount of lint reaped was 21,900 lb. From the report of the cotton inspector it appears that the season was an exceptionally good one for cotton in Anguilla and that there was no damage to the crop by the pink boll worm. The cotton leaf worm was present but was satisfactorily controlled. As a result of the very satisfactory results this season it is expected that the acreage under cotton in Anguilla will be increased considerably next season.

EXPORTS OF COTTON.

The following table gives the exports of cotton lint from the Presidency for the twenty-five years ended September 30, 1928.

Year.	St. Kitts lb.	Nevis lb.	Anguilla lb.	Total. lb.
1904 ...	24,197	28,449	1,661	54,307
1905 ...	78,219	114,721	31,452	254,392
1906 ...	120,379	120,168	80,650	321,197
1907 ...	180,917	96,402	61,666	338,985
1908 ...	241,006	211,431	76,200	528,637
1909 ...	207,146	104,250	49,320	360,716
1910 ...	231,150	129,973	43,400	404,523
1911 ...	329,322	344,395	148,595	822.312
1912 ...	332,168	165,329	97,142	594,639
1913 ...	374,594	166,477	112,138	653,209
1914 ...	372,633	268 542	94,372	735,547
1915 ...	397 567	305,154	33,750	736,401
1916 ...	131,859	99,173	49,620	280,652
1917 ..	106,265	196,915	49,399	352'579
1918 ...	2,457	187,748	652	190,857
1919 ...	422,681	307,212	47,869	797,762
1920	288,720	292,627	61,543	642,890
1921 ...	23,970	422,120	nil	446.090
1922 ...	228,612	225,851	50,120	504,583
1923 ...	29,256	510,919	nil	540,175
1924 ...	81,590	234,957	23,342	344,907
1925 ...	185,607	81,844	nil	267,451
1926 ..	297,023	126,014	4337	427,374
1927 ..	220,095	224,588	nil	444,683
1928 ...	161,360	113,492	1,503	276,358

The crop return of cotton for the year ending September 30, 1928, was 310,447 lb. lint.

EXPORTS OF SUGAR.

The following Table gives the Exports of Sugar from the Presidency for the 29 years 1900—1928.

Year	Tons
1900	7,494
1901	12,146
1902	16,624
1903	13,511
1904	12,225
1905	12,042
1906	15,191
1907	14,178
1908	11,044
1909	12,027
1910	12,510
1911	11,139
1912	10,554
1913	11,312
1914	9,946
1915	8,311
1916	16,106
1917	15,048
1918	9,105
1919	11,015
1920	12,483
1921	10,592
1922	9,648
1923	10,717
1924	9,699
1925	15,043
1926	15,651
1927	17,363
1928	18,610

RETURN OF AGRICULTURAL PRODUCE EXPORTED FROM THE PRESIDENCY OF ST. KITTS—NEVIS FOR THE YEAR ENDED DECEMBER, 1928.

Article	Quantity	Value
Sugar, crystals	18,610 tons	£264,490
Syrup	34,473 gallons	1,336
Molasses	339,340 gallons	1,710
Cotton, Sea Island	438,552 lb. lint	36,038
Cotton Seed	138 tons	596
Coconuts	312,648 nuts	2,040
Copra	5,912 lb.	72
Tamariuds	65 barrels	60
Salt	1,394 tons	2,613
Hides and Skins	—	572
Horses	45	260
Mules	79	870
Asses	127	175
Sheep	226	113
Cattle	34	265
Swine	50	25

DETAILS OF ADMINISTRATION.

EXPENDITURE).

The expenditure for the year was as follows :

Salaries	£850	2	6
Upkeep Experiment Station	99	0	7
Sugar Cane, Cotton and other Experiments	209	6	5
Experiment Station, Nevis	80	4	4
Apparatus, chemicals and books	69	2	9
Destruction wild cotton and Cotton pests	73	17	1
Travelling expenses	106	1	6
Contingencies	17	9	7
Telephones	26	8	0
Government Cotton Seed Farm	693	13	10
Zebu Bulls	200	8	10
Total expenditure ...	£2425	15	5

REVENUE.

Experiment Station	£60	10	6
Government Cotton Seed Farm	1344	13	5
Revenue	£1405	3	11

OFFICIAL VISITS.

His Honour, the Administrator, Lt-Colonel T. R. S. Johnston, C. M. G., visited the Experiment Station on several occasions during the year.

Professor H. A. Ballou, Commissioner of Agriculture, and the Honourable A. E. Collens, Superintendent of Agriculture visited the Presidency on two occasions during the year.

WORK IN THE CHEMICAL LABORATORY.

The following samples were dealt with in the Labortary during the year :

Milks	103
Manures	3
Limestone	1
Waters	5
Spirituous liquors	2
Petroleum oils	30
Cane juices	6
Soils (detds)	62
Seed Cotton	190
Total	402

INVESTIGATIONAL WORK.

An investigation was undertaken during the year in connexion with the use of megass for soil improvement The following is a summary of the results so far obtained.

Field Experiment. A plot of land one-tenth of an acre in area was divided into two. one half was given an application of 1680 lb of megass while the other half received no treatment. Tephrosia candida was planted in the plot but this was destroyed at an early stage by the hurricane of September. Sweet potatoes were then planted. After the potatoes were reaped soil samples were taken from the treated and untreated plots and examined in the Labortary The results are given below :

	Plot with megass	Plot without megass
Maximum water ...		
holding capacity ...	33 per cent	29 per cent
Specific Gravity ...	2.73	2.76
Apparent Specific ...		
Gravity	1.46	1.56
Pore pace, per		
cent	46 5	43.5
Nitrogen (% in air dry soil)	0.073	0.078
Total Organic ...		
Matter	2.39	1.77
Soluble Humus ...	1.05	0.85
Nitrogen % in humus ...	1 47	3 08

The soil treated with megass is seen to show increases in pore space, water holding capacity, organic matter and soluble humus The humus of the untreated soil is however much richer in nitrogen.

With a view to obtaining information on the effect of an application of megass on the rate of nitrification the following laboratory experiments were carried out Soil was taken from the untreated portion of the plot on which the field experiment was conducted. The soil was a very light sandy loam, containing over 70 per cent of sand. Six portions of the air dried soil, which had been sieved through a 1 mm. sieve, were weighed and mixed with megass and fertilisers according to the following plan :

I. 1000 grms. soil (control)

II. 1000 grms. soil + 14 grms. megass

III. 1000 grms. soil + 0.25 grm. sulphate of ammonia.

IV. 1000 grms. soil + 0.25 grm. Humber fish manure.

V. 1000 grms. soil + 14 grms. megass + 0.25 grm. sulphate of ammonia.

VI. 1000 grms. soil + 14 grms megass + 0.25 grm. Humber fish manure.

These differently treated samples were placed in loosely stoppered jars and water equivalent to half the saturation moisture content of the soils added. Initial determination of the nitrate content of the soil was made by the modified Phenol-disulphonic acid method. Soil samples were taken periodically and the moisture and nitrate contents of these determined.

The results obtained are shown in the table below :

MGMS. NITRATE NITROGEN PER 100 GM. DRYK SOIL.

Time.	Experiment.					
	I.	II.	III.	IV.	V.	VI.
Start	2·2	2·2	2·2	2·2	2·2	2·2
After 7 days	2·2	0·0	3·7	2·5	0·0	0·0
„ 21 „	3·0	0·0	4·7	4·0	0·0	0·0
„ 35 „	3·3	0·0	5·6	4·6	0·0	0·0
„ 49 „	3·0	0·0	5·9	4·0	0·0	0·0
„ 63 „	3·2	0·0	4.0	4·8	0·0	0·0
„ 77 „	3·2	0·0	4·8	5·0	0.0	0·0
„ 101 „	3·0	0·0	4·3	–	0·0	0·0
„ 156 „	3·8	0·0	5·3	3·8	0·0	0·0

CONCLUSIONS.

The [illegible] soil is seen to show a nitrification which may be regarded as normal for [illegible] soils, although the production of nitrate is low when compared with results reported for Java soils. The megass [illegible] accumulation of nitrate.

CONCLUSIONS.

The results of the experiments show that the physical properties of our soil are greatly improved by applications of magass but that such applications are liable to affect adversely the accumulation of soil nitrate, and may be followed by a depression in the yield of the succeeding crop.

The practice of applying megass to cane lands is therefore wrong unless the material is ploughed in at least seven months before the cane is planted otherwise there will be serious nitrogen starvation for a considerable period of time. If there is a desire to utilise megass for the improvement of the physical condition of the soil it should first be put into the cattle pens where it will absorb a considerable amount of the animal urine and become partly decomposed before it is incorporated with the soil.

METEOROLOGY.

The following are summarise of the observations recorded at the Experiment Station, La Guerite, during the year under review.

Barometric Pressure. During 1928 the mean pressure corrected for temperature and gravity and reduced to sea-level at 9 a. m. was 30.019 and at 3 p. m. 29.957, the highest recorded being 30.157 on February 24th and the lowest 29.170 on the 13th September.

Temperature. The mean maximum temperature for the year was 84.0°F and the mean minimum 74.0°F. The maximum extreme for the year—89°F—was registered on August 6th and 14th and September 18th and the minimum extreme—68 F—was registered on February 13th and March 23rd. The mean average temperature was 79.0°F and the mean monthly range 15.1°F.

Humidity. The mean relative humidity was at 9 am. 69.% and at 3 pm. 68.8%.

Rainfall. The total rainfall measured at the Experiment Station was 52.53 inches. This fell on 159 days, the greatest rain being 11.55 inches during the hurricane of September 13th. The total average rainfall for the year 1928 from 29 stations was 53.25 inches, the average rainfall for the island for the years 1924—1928 being 54.45 inches.

Name of Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Wingfield	6·89	3·25	7·29	1·72	1·49	4·13	4·78	7·49	8·56	7·28	1·10	14·14	71·72
Sir Gillies	3·35	2·65	1 90	3 95	1·05	1·35	7·03	9·80	11·16	8·31	7·28	6·88	67·71
Lodge	3·38	2·31	5·63	3·70	1·36	3·68	3·97	5 31	14·91	6·38	6·38	6·75	64 71
Cranstouns	5·02	2·12	5·45	5·33	2 03	3 19	5·60	7·34	9·93	7·04	3·86	7 27	64·18
Molineux	3·13	2·39	5 68	4·39	1·37	3 84	4·45	5·07	12·36	5·86	5·28	6·97	60·79
Mansion	3·30	1·82	6 18	2·19	1·26	4·24	4·41	5 38	12·12	6·55	6·13	5·89	60·37
Belmont	2·15	1·92	5·14	3·48	2 31	2·66	4·65	5·47	16·85	5·87	3·32	5·79	59·61
Estridge	2·82	1·80	6·00	2·27	0·68	2 94	4·84	4·87	15·02	3·59	6·15	6·78	57·76
Stapleton	2·88	1·90	5·46	1·88	1·17	3·13	4·25	5·28	12·38	6·41	6·73	6·08	57·55
Brighton	2·61	1·81	5·21	3·38	1·05	3·45	4·04	4·28	11·79	5·31	7·47	6·52	56·92
Lower Bourryeau ...	2·77	2 62	7·14	3·11	0·68	4·14	4·82	3·19	13·10	5·13	4·34	5·49	56 53
Bellevue	2·99	1·14	5·18	2·92	1·53	3·22	4 21	4·47	12·53	6·13	5·75	5·91	56·28
Mills	2·17	1·64	6·01	2 52	0·80	3 82	3 96	3·75	12·34	5·53	5·11	5·94	53·59
Farm	4·11	3·56	4·14	4·08	0·18	1·85	2·83	5·80	14·41	5·11	3·09	3·92	53 08
La Guerite	2·31	1·69	3·85	1·62	0 94	2 55	2·95	3·10	15·92	6·74	1·38	6·48	52 53
Cunningham ...	2·64	1·67	4·75	2 79	1·26	3 61	3·74	5·08	9·27	4·97	7·13	5·58	52·47
Buckleys	2·54	1·45	4·35	1·80	0·74	2·92	2·88	3.60	15 31	6·01	4·07	6·42	52 09
Bourkes	3·72	1·81	3·97	3·98	1·25	2·38	3 43	5·65	11·41	4·83	2·27	7 24	51·91
La Vallee	4·00	1·70	4·10	4 35	1·35	2·50	3·25	6·55	8·55	5·20	3·00	7·30	51·85
Caines	1·70	1·72	4·46	3·20	0·56	3·51	4·03	4·84	10·82	6·81	5·23	1 84	51·72
West Farm	2·71	1·48	1·04	1·45	0 86	2·79	2·64	3·80	15 71	5·61	3·01	6·89	50·99
Brothersons	2·31	1·79	3·64	3·48	1·82	2·48	2·86	6·86	11·87	6·81	2·56	4·38	50 86
Douglas'	2·33	0·93	2·99	1·50	0·55	1·37	2·78	3 61	10·95	5·60	1·64	7·86	45·11
Needsmust	2·25	1·86	4·11	1·15	1·25	4·40	2 85	6·09	6·20	5·06	4 75	5·50	43·47
St. Kitts Factory ...	1·60	1·39	3·32	0·73	1·42	2·04	2·99	2·56	13·41	5·41	3·57	3 71	42·15
Willets	1·13	0·53	2·71	1·99	1·20	2·50	2 58	3·95	10·67	4·96	4·41	4·53	41·16
Frigate Bay ...	2·09	1·31	2·55	1·51	0·67	2·67	2 88	3·71	8 72	5·44	3·13	3·81	38 49
Pond	1·00	2·52	2 95	1·20	0·85	2·30	2·20	4·79	9·15	5·00	2·74	3·67	38·37
Canada	1·59	0·65	4·22	0·97	0·72	2·12	3·91	3 00	8 55	4·44	1·10	3·66	37·93

Average Monthly Rainfall 1928.

			Inches
January	...	...	2·81
February	...	...	1·85
March	...	...	1·67
April	...	...	2·76
May	...	...	1·12
June	...	...	2·89
July	...	...	3·79
August	...	...	4·98
September	...	.	11·87
October	...	...	5·77
November	...	...	1·61
December	...	...	6·10
			53·25

Average Rainfall 1914-1928.

In 1914	the	average	rainfall	on 31	stations	was 55·92	inches.
1915	„	„	„	32	„	„ 75·59	„
1916	„	„	„	35	„	„ 69·51	„
1917	„	„	„	33		43·53	„
1918	„	„	„	30	„	52·41	„
1919	„	„	„	29	„	„ 62·84	„
1920	„	„	„	28	„	„ 37·80	„
1921	„	„	„	29	„	„ 47·09	„
1922	„	„	„	33	„	„ 44·72	„
1923	„	„	„	31	„	„ 35·50	„
1924	„	„	„	28	„	„ 68·13	„
1925	„	„	„	32	„	„ 43·54	„
1926	„	„	„	27	„	„ 62·57	„
1927	„	„	„	29	„	„ 64·36	„
1928	„	„	„	29	„	„ 53·25	„

The average rainfall for 15 years is 54·45 inches so that the rainfall for the year 1928 is 1 20 inches beiow the average.

Latitude 17° 20′ N. METEOROLOGICAL REPORT FOR 1928. Heights { Barometer 157 feet

Longitude 62° 45′ W. AGRICULTURAL DEPARTMENT, ST. KITTS. Above M.S.L. { Rain Guage 152″

Months.	Barometric pressure reduced to Sea Level, 32° Fahrenheit and corrected for Gravity.					Temperatures.								Vapour Pressure Ins. of Mercury.			Relative Humidity per cent.			Rainfall.	
	9 a.m.	3 p.m.	Mean.	Highest.	Lowest.	Maximum Mean.	Minimum Mean.	Maximum Extreme.	Minimum Extreme.	Mean for Month.	Range for Month.	Dew Point 9 a.m.	Dew Point 3 p.m.	9 a.m.	3 p.m.	Mean.	9 a.m.	3 p.m.	Mean.	Inches Rainfall.	No. of days on which Rain fell.
January ..	30·046	29·959	30·002	30·103	29·913	81·0	72·2	82	69	76·6	13	68	68	·694	679	·686	72	67	69·5	2·31	13
February ...	30·086	30·007	30·046	30·157	29·906	81·1	72·2	82	68	76·6	14	67	67	·673	649	·661	70	65	67·5	1·69	10
March ...	30·068	29·936	30·032	30·120	29·937	81·4	72·4	83	68	76·9	15	67	68	·670	·697	·681	69	70	69·5	3·85	11
April ...	30·043	29·983	30·013	30·106	29·912	83·1	71·1	85	70	77·1	15	67	67	·673	·723	·698	67	68	67·5	1·62	7
May ...	30·013	29·963	29·988	30·064	29·856	85·4	75·5	87	73	80·4	14	71	71	·758	·758	·758	67	64	65·5	0·94	7
June ...	30·023	29·977	30·000	30·082	29·916	86·2	75·8	88	70	81·0	18	72	72	·773	·779	·776	67	67	67·0	2·55	7
July ...	30·050	30·001	30·027	30·092	29·911	85·6	75·5	88	72	80·5	16	73	72	·814	·804	·809	70	69	69·5	2·95	12
August ...	30·006	29·995	30·001	30·079	29·903	87·0	76·0	89	72	81·5	17	74	72	·847	·782	·814	70	65	67·5	3·10	10
September...	29·967	29·892	29·929	30·065	29·170	86·2	77·0	89	74	81·6	15	75	74	·883	·841	·862	75	73	74·0	15·92	20
October ...	29·970	29·901	29·935	30·037	29·789	85·1	75·2	87	71	80·1	16	74	74	·844	·830	·837	75	73	74·0	6·74	20
November ...	29·960	29·900	29·930	30·033	29·860	84·5	73·6	87	71	79·0	16	73	72	·832	·817	·825	67	72	69·5	4·38	19
December ...	29·996	29·922	29·959	30·074	29·821	81·0	71·9	83	70	76·4	13	70	70	·741	·752	·746	70	73	71·5	6·48	23
Means ...	30·019	29·957	29·988			84·0	74·0	85·8	70·7	79·0	15·1	70·9	70·6	·767	·759	·762	69·9	68·8	69·4	52·53	159

A severe hurricane passed 30 to 40 miles South of the Island on the 12th-13th September, the lowest Barometer reading (corrected) recorded being 29·17 inches.

CYCLONE OF SEPTEMBER 12—13, 1928.

A severe cyclone passed to the south of the island on the night of Wednesday, the 12th September. The first indications of cyclonic conditions were obtained at noon on Tuesday, the 11th September. The barometer began to fall at 11 p. m. when there was a rapid drop from 29.99 to 29·80 inches. At 6 a.m. on the 12th the reading was 29·78 inches. The barometer continue to fall steadily during the whole day and reached its lowest point shortly after 9 p. m. when a reading of 29·17 inches was recorded. Rain squalls did not begin until 2 p. m. The heaviest gusts of wind occured between 9 p. m. and 11p. m. The wind blew with hurricane force until about 3 a.m. on the 13th. The storm was of wide area and considerable intensity and must have passed about 30 miles south of the island The rainfall recorded at the Experiment Station during the passage of the storm was 11.55 inches.

A considerable amount of damage was done to the young cane crop. A large number of canes were broken off and those left standing had their leaves torn into shreds. Fortunately the Basseterre Sugar Factory had completed the grinding of the 1927—28 crop before the storm and the cotton crop had all been reaped. The damage to property was extensive.

The barometer readings taken durring the passing of the storm are given below :

Time	Corrected Barometer Reading	Remarks
	September 11th	
9 a.m.	29.97 inches	Wind N.E.
3 p.m.	29.88 ,,	,, ,,
8 p.m.	29.90 ,,	,, ,,
11 p.m.	29.80 ,,	,, ,,
	September 12th	
6 a.m.	29.78 inches	,, ,,
9 a.m.	29.76 ,,	,, ,,
10 30 a.m.	29.74 ,,	,, ,,
11 a.m.	29.72 ,,	,, ,,
12 15.	29.68 ,,	,, ,,
12 30 a.m.	2967 ,,	,, ,,

Time.	Corrected Barometer Reading.	Remarks.
1 p.m.	29·65	Wind N. E.
1·30 p.m.	29·61	
1·45	29·59	
2	29·57	
2·15	29·58	
2·30	29·56	
2·45	29·54	
3	29·54	
3·15	29·53	
3·30	29·51	
3·45	29·49	
4	29·46	
4·15	29·48	
4·30	29·46	
4·45	29·43	
5	29·41	
5·15	29·40	
5·30	29·39	
5·45	29·36	
6	29·35	Wind N. E. by E.
6·15	29·34	
6·30	29·33	
6·45	29·32	
7	29·30	
7·15	29·28	
7·30	29·24	
7·45	29·23	
8	29·22	
8·15	29·21	Very heavy gusts.
8·30	29·19	
9 ocillating between	29·19 & 29·21	
9·02	29·17	
9·15	29·19	Wind shifting to S. E. Very heavy gusts.
9·17	29 22	
9·30	29·23	
9·45	29 24	
10	29·24	
10·15	29·25	
10·30	29·26	
10·45	29·28	
11	29·29	
11·15	29·31	
11·30	29·33	
11·45	29 34	
Midnight.	29 38	
12·15 Sept. 13	29·40	
12·30	29·40	
12·45	29·42	
1	29 46	
1·15	29·48	
9 a.m.	29·84	

Report of the Agricultural Instructor Nevis.

FOR THE YEAR ENDED MARCH 31ST., 1929.

WORK IN THE NURSERY AND DISTRIBUTION OF PLANTS, &c.

The ornamental border and hedges have been kept in good order during the year. The nursery was badly damaged in the hurricane of September 12th and many of the plants were lost. The nursery has been renovated and most of the plants repotted. The total number of plants distributed from the station during the year was 337, which consisted of 138 fruit trees, 160 shade and timber trees, and 39 ornamental plants.

PLANT IMPORTATION.

The following plants were imported during the year:—12 plants of Hydnocarpus Wightiana. 4 plants of the Manila Hemp (Musa textilis), 12 plants of the Tung Oil (Aleurities Fordii.) The Hydnocarpus and Tung oil plants were distributed about the island, and the Manila hemp planted at the station.

As in the past, plot experiments with various economic and food crops have been carried out at the station, and seeds and cuttings of varieties which have given best results are distributed to growers about the island.

The following is a list of seeds and cuttings distributed during the year:—

Sweet Potato	...	7,950	cuttings
Onion Seedlings	...	82,300	
Tomato Seedlings	...	3,483	
Cane Plants	...	200	
Indian Corn	..	6	lb.
Yams ...	...	44	„
Peas and Beans	...	25	„
Vegetable Seeds	...	4	pkts

In connection with the hurricane relief work, the following was also distributed through the station :—

Indian Corn	...	664 lb.
Black eye Peas	...	84 „
Cotton Seed	...	3,810 „

MANILLA HEMP (*Musa Textilis.*)

Four plants of Manila hemp were received from from the Agricultural Superintendent, St Kitts—Nevis. One of which was sent to Mr Gottsleben of Belmont estate and three planted at the Experiment station. The plants grew fairly, and as soon as suckers appeared they were removed and planted out in a plot There are now 69 plants in the plot making fairly good progress. When sufficient plants are available plots will be planted in the ravines in the mountain lands.

MUSK MELON.

A plot of half an acre was planted in the Honey Dew variety of Musk Melon on November 5th 1928. The seed germinated fairly well, but when the plants were yet very small they were attacked by the melon caterpillar. The plot was dusted with Paris Green and lime, but on account of repeated attacks the crop turned out to be a failure.

TOMATO *"Beauty"*

Half an acre was planted in this variety of tomato on October 31st 1928.

The seed was sown in nursery beds and when the plants were about 9 inches high, they were planted out in the plot on banks 4 ft. apart and 3 ft. apart on the banks.

The weather at planting time was favourable and very little supplying had to be done.

When the plants were about 18 inches high there were supported by stakes.

Except for slight attacks of the green bug, the crop was free from pests.

Reaping of tomatoes began on January 24th 1929, and the total yield of marketable tomatoes was 3,787lb. being at the rate of 7,574 lb per acre.

The fruits were of uniform size and shape and very attractive in appearance.

SWEET POTATO. (*Yellow Jersey*).

A plot of half an acre was planted in the Yellow Jersey variety of sweet potato on November 13 1928.

The crop grew fairly well but the rainfall was a little insufficient. The crop was reaped on April 15 1929, and a yield at the rate of 3,290 lb. of potatoes per acre was obtained.

A shipment of 10 crates was made to Canada where they were sold at the rate of 5½ cts per lb.

COTTON SELECTION.

Seeds from last season's selected plants were sown in plot H on October 3rd 1928 The seed germinated well and the plants made good growth. When the bolls were fully developed the plot was gone through and the three plants in each type carrying the largest number of bolls were selected and labelled. The seed cotton from each of these plants was picked and kept in seperate bags, and the lint afterwards examined. The seed from the plants with the longest lint were kept for carrying on the selection.

The following table shows the result of the selection.

Plant No.	Weight of Seed cotton ozs.	Length of fibre inches.
205	5.0	2.06
2052	4.5	2.06
2053	10.0	2 14

WORK IN CONNECTION WITH INSECT AND FUNGUS PESTS AND THEIR CONTROL.

SUGAR CANE.

MOSAIC DISEASE. No trace of this disease was observed during the year.

GUMMING DISEASE. Gumming disease was not so general as it was last season ; probably due to the more general planting of resistant varieties.

MOTH BORER. The moth borer was very prevalent during the season and at some places the crop was seriously affected by it.

COTTON.

The cotton crop was planted during the early part of October 1928, and the season was a very bad one with the cotton worm. The attacks commenced when the plants were very small and attack followed attack right through the season, and it was only through using large quantities of Paris Green that the crop was saved.

The crop was practically free from other pests, and the pink boll worm in particular was hardly seen.

The same care was exercised in the cleaning up of the cotton fields as in the past, and the cleaning up of the ginneries and store houses had been satisfactorily carried out.

The fumigation of cotton seed at the ginneries had also been carried out according to Regulations.

INSECTICIDES.

A supply of Paris Green was again put in stock at the Experiment Station by the Local Government for the benefit of the small growers. Paris Green was supplied to 317 growers and the total quantity of Paris Green supplied was 1904 lb.

DISINFECTION AND FUMIGATION OF PLANTS AND SEEDS.

In accordance with the provisions of the Plant Protection Ordinance 6 consignments of seed and plants were received at the Experiment Station for fumigation.

Two shipments of cotton seed amounting to 147 tons were made to Barbados. The seed, after being fumigated at the ginneries, was again fumigated at Charlestown immediately before shipment, under the supervision of the Agricultural Instructor.

EXPERIMENTS WITH SUGAR CANE VARIETIES.

Experimental plots of variety canes on the estates have been discontinued.

PROGRESS IN CHIEF INDUSTRIES.

SUGAR CANE.

The cane industry of the island is declining. The crop was very backward on account of dry weather, but it recovered somewhat after the hurricane. Most of the machinery of the island was either badly damaged or destroyed by the hurricane and it is not likely that many of the factories will be repaired This will cause a further reduction in the acreage under canes.

COTTON.

The 1927-28 cotton crop was all reaped by the end of May 1928, and the total prodction of lint was 159,864 lb.

Fortunately most of the crop was shipped before the hurricane of September 12th 1928, and that stored on the island was not damaged.

The same care was exercised in the cleaning up of the cotton fields and ginneries as in the past.

The acreage planted in cotton during the year under report 1928-29 was about 1500 acres, of which about 1000 acres are

grown by the small growers. The crop was nearly all planted during the month of October 1928. The seed germinated well and the weather following was very favourable and the crop made rapid progress. During the months of December and January the crop was severely attacked by the cotton worm, but no very serious damaged was done as the pest was promply dealt with. The crop this season was not affected by the pink boll worm, and there was only a slight attacked of the cotton stainer.

Cotton picking began during the month of February 1929 and the crop was estimated at 160 lb. of lint per acre, but it appears that the returns will be very much better than this.

COCONUTS.

The coconut plantations throughout the island have been severely damaged by the hurricane, and at some places fully one-third of the trees have been destroyed.

The total number of nuts reaped at Pinneys estate during 1928 was 300,000.

PROGRESS IN MINOR INDUSTRIES.

LIVE STOCK.

The live stock of the island continue in good health, but a large number of animals died during the year from lack of sufficient food and water during the dry weather. Until stock raisers turn their attention to the planting of suitable grass for the pastures they will continue to lose animals during the dry periods. Sour grass (*Andropogon pertusus*, has proved a suitable grass for this purpose as it makes good growth during the rainy reason and stands up well during the dry weather.

The dogs have been very bad again this year and many sheep and goats have been destroyed by them. If some check is not put to the destruction of stock by these dogs, very soon only a few small stock will be left in the island.

The Kentucky Jack at Fothergills estate continues in good health and is doing good service.

The two pure-bred Zebu Bulls imported from Trinidad by the local Government were transferred from the estates to the Experiment Station where they are now kept under the supervision of the Agricultural Instructor. The older bull (No. 165 was on service during the year, and 40 cows were served by him Both animals have made good improvement and they are in good health and condition.

FRUIT AND VEGETABLES.

The usual ground provisions were grown during the year These crops are grown chiefly by the small growers who find a ready market locally for their produce.

The small growers also planted trial plots of tomatoes and onions which turned out fairly well.

A Fruit and Vegetable Association was formed during the year, which will act as a local centre for receiving and shipping Fruits and Vegetables to the Canadian market.

EXTENSION OF INTEREST IN AGRICULTURAL MATTERS.

A collection of exhibits was forwarded to the Toronto Exhibition. It was intended to hold an Agricultural and Industrial Show toward the end of 1928, but on account of the hurricane of September 12th it was cancelled.

AGRICULTURAL EDUCATION.

Very creditable work is being carried out on some of the school gardens, and on the whole the work on the school gardens is receiving better attention.

CORRESPONDENCE AND DISTRIBUTION OF INFORMATION ON AGRICULTURAL MATTERS.

The usual correspondence in connexion with the work of the Department has been carried on.

Regular visits are paid by the Agricultural Instructor to the estates and peasants' cultivation in the different parts of the island and advice as to crops and to methods of dealing with pests offered.

The Agricultural and Commercial Society of which the Agricultural Instructor is Honorary Secretary held five meetings during the year and the following were the chief matters dicussed :—Trade with Canada in W. I. Fruits and Vegetables; The Bog Land near Charlestown; Water supply in certain parts of the island ; and Cotton Licences.

OFFICIAL VISITS.

His Hon the Administrator Lt.-Colonel T R.St. Johnston C.M.G. visited the station on several occasions during tha year.

Professor H. A. Ballou M. Sc. Imperial Commissioner of Agriculture for the West Indies, visited the island on October 5th. 1928.

The Hon. A. E. Collens F. I. C., Superintendent of Agrcul ture for the Leeward Island visited the island on April 22nd 1928.

Mr R. E. Kelsick Agricultural Superintendent St. Kitts-Nevis, visited the island three times during the year.

The Hon. A. C. K. Tibbits, Warden, Nevis, visited the station on several occasions during the year.

PUBLICATIONS RECEIVED.

The following publications have been regularly received and are hereby gratefully acknowledged :—

The Journal of the Imperial College of Tropical Agriculture ; Journal of Agriculture Research, and the Experiment Station Records, United States Department of Agriculture ; Journal of the Empire Cotton Growing Corporation ; Journal of the Agricultural Society, Jamaica ; Journal de la Station Agronimique, Guadeloupe ; Report of the Local Department of Agriculture, Barbados ; Report of the Experiment Station Porto Rico ; Climatological Report, San Juan Porto Rico.

REPAIRS TO BUILDINGS.

The office of the Experiment Station was damaged in the hurricane and temporary repairs have been done.

STAFF CHANGE.

There was no change of staff during the year.

METEOROLOGICAL RETURNS.

The total rainfall for the year 1928—29 was 43.81 inches which does not include that which fell during the hurricane of September 12th 1928 and the day after, for which no record was vailable as the rain guage was blown away.

Rain fell on 117 days during the year, and the heaviest fall recorded for any one day was 1.85 inches which occurred on June 28th 1928.

The following table shows the monthly rainfall at the Experiment Station for the year under report,

Month 1928	Rainfall Inches	No of days on which rain fell	Max fall for any one day
April	3.87	9	.98 (21st)
May	1.34	4	.60 (16th)
June	3.96	5	1.85 (28th)
Jnly	4.06	10	1 44 (10th)
August	2.59	6	.98 (9th)
September	1.98	8	7 (12th)
October	5.84	8	1.60 (22nd)
November	4.07	7	1.05 (14th)
December	4.37	20	.80 (28th)
1929			
January	3.92	20	.43 (3rd)
February	2.52	13	1.08 (9th)
March	5.38	7	1.50 (14th)
	43.81	117	

TEMPERATURE.

No figures as regards temperature are published as the thermometer screen and instruments were destroyed in the hurricane.

HURRICANE.

A hurricane struck the island on the afternoon of September 12th, 1928. wind blowing from the N. E. and veeringto the E. about midnight. The lowest Barometer reading was 29·10 inches at 9 a.m.

RAINFALL AT THE EXPERIMENT STATION, NEVIS, FOR THE PAST TWENTY-THREE YEARS 1906–1928.

	January.	February.	March.	April.	May.	June.	July.	August.	September	October.	November.	December.	Total.
	Ins	Ins.	Ins	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
1906	3·28	2·22	1·71	2·19	3·49	7·30	4·11	2 94	18·93	3·10	3·42	6·67	60·11
1907	3·22	2·32	1·23	1·08	3·30	4·12	4·86	2·64	3·76	6·92	2·54	7·46	43·45
1908	2·58	1 70	7·16	2·18	4·24	2·83	3 34	5·02	6·98	1·44	6·93	6·10	50·50
1909	3·86	3·46	·96	2·72	1·62	9·52	4·52	8·71	3 46	7·38	2·44	2·74	50·69
1910	5·24	3 82	1·33	·44	1·08	4 24	2 80	7·10	7·00	1·86	3·32	4·68	41·91
1911	6·38	2·78	2·32	4·02	4·08	·92	2·72	2·34	5·30	3·58	2·80	8 84	46·08
1912	3·84	·68	2 66	4·20	·79	2·51	3·56	3·46	3·19	5 25	6·43	2 85	39·42
1913	7·18	1·96	4·14	·81	4·47	2·23	1 77	4·92	3·59	3 89	4·41	3·36	42·64
1914	3·40	2·74	3·10	2·52	6·29	2·65	5·16	4·72	2 20	4·17	12·44	4·16	53·55
1915	4·40	2·03	·28	5·65	2·79	2·52	8·14	4·34	4·71	5·88	5·37	5·89	52·10
1916	4·53	3·99	2·19	·75	3·82	2·07	14·54	7·81	2·00	10·86	6·74	4·74	64·04
1917	1·39	3·28	2·57	1·00	4·27	6·73	3·46	4 02	8·18	5·00	2·11	2·09	44 10
1918	2·18	3·27	2·75	2·59	6·14	2·02	4 08	5·12	6·21	6·36	10·98	2·28	53 98
1919	2·22	1·16	1·33	2·79	2·10	2·39	4·02	1·66	2·10	8.41	7·22	2·89	38·22
1920	3·71	2·86	1.25	·02	1·22	2·22	1·79	4 61	6·05	6·76	3·30	4·39	38·18
1921	5·84	2·79	3·86	1·40	·82	·80	4·94	6·58	4·20	7·34	3·66	3·95	46·18
1922	1·75	1·80	4.71	2·33	1 95	3·09	4·05	3·88	6·84	4·27	2·14	5·81	43·62
1923	1·51	2·41	5·42	2·04	·45	5·62	1·85	2·63	1·16	5·28	1·23	3·16	32·76
1924	2·46	3 29	·05	2·49	1·58	2·48	4·50	24·35	4·05	5·11	3·57	4·71	58·64
1925	2·65	·99	1·49	1·06	1·64	1·92	3·53	4·81	4·12	6·94	2 74	·31	32·20
1926	2·08	1 97	1·78	3·42	11·77	2·92	3·89	4·94	6·24	7·15	3·62	6·59	56·37
1927	4·44	1·46	4·01	2·79	9·32	2·60	6·52	3·48	4·48	10·05	5·69	1·22	56·06
1928	2·87	2·10	3·21	3·78	1·34	3·96	4·06	2·59	*1·98	5·84	4·07	4·37	40·17

The average rainfall for the last Twenty-three years was 45·43 inches.

*Rainfall during hurricane of September 21 1928, not available.

Imperial College of Tropical Agriculture

The College is situated at St. Augustine, Trinidad, amid beautiful and healthful surroundings. It offers a **Three Year Diploma Course and Post-Graduate and Special Courses.**
with facilities for research and training in Tropical Agriculture.

Chairman of Governors:
SIR JAMES CURRIE, K.B.E., C.M.G.
Principal:
MR. G. EVANS, M.A., C.I.E.
Commissioner of Agriculture for the West Indies:
PROF. H. A. BALLOU, M.SC.
Assistant Commissioner of Agriculture for the West Indies:
MR. G. A. JONES, DIP. AGRIC. (*Bangor*).
Dean:
PROF. H. R. BRITTON-JONES, D.SC., PH.D., (*Lond.*)

SCIENTIFIC AND TECHNICAL STAFF.

Agriculture:
PROF. R CECIL WOOD, M.A. DIP. AGRIC.,
MR. D. H. BROWN.
Botany and Genetics:
PROF. E. E. CHEESEMAN, M.SC., A.R.C.S.
MR. R. E. HUNTER, B.SC.
Chemistry and Soil Science:
PROF. F. HARDY, M.A., DIP. AGR.
MR. P. E. TURNER, B.SC., F.I.C. (seconded).
MR. H. H. CROUCHER, B.SC., (*Lond*).
Economics:
PROF. C. Y. SHEPHARD, B.SC., (ECON).
Mycology and Bacteriology:
PROF. H. R. BRITTON-JONES, D.SC., PH.D., (*Lond.*) D.I.C., A.P.C.S.
MR. A. K. BRIANT, M.A., (*Cantab*), DIP. AGR. A.T.C.T.A.
Banana Pathologist:
DR. C. W. WARDLOW, PH.D., D.SC., F.R.S.E.
Banana Physiologist:
DR. L. P. MCGUIRE, M.SC., PH.D., D.I.C.
Sugar Technology:
PROF. W. SCOTT, B.SC.
MR. J. G. DAVIES, A.T.C.T.A.
Tropical Sanitation and Hygiene:
PROF. E. A. SEAGAR, M.B., CH.B., D.T.M.
Veterinary:
CAPT. H. V. METIVIER, O.B.E., B.SC., M.R.C.V.S.
Zoology and Entomology:
PROF. H. A. BALLOU, M.SC.
ASST. PROF. MR. F. W. URICH, F.E.S., C.M.Z.S.
Editor-Librarian.
G. G. GIANOTTI, DIP. AGRIC. (ECON.) (*Cantab*).

"TROPICAL AGRICULTURE"

The Journal of the Imperial College of Tropical Agriculture.

Published monthly at Trinidad, B.W.I., "Tropical Agriculture" contains valuable original articles dealing with sugar, cacao, coffee, tea, cotton, copra and other tropical products. The information which it contains is of an essentially practical character.

Annual Subscription Rates.

British Empire	Other countries
6/- post free.	7/- post free.
(6d. per copy)	(7d. per copy.)

Specimen copies sent free on request.

The Editor,

"Tropical Agriculture,"

ST. AUGUSTINE, TRINIDAD, B.W.I.

Advocate Co., Ltd., Barbados.